# VII. Health Promotion, Health Protection, and Disease Prevention

In accordance with the mission of public health, the Mississippi Department of Health (MDH) focuses its efforts on health promotion, health protection, and disease prevention.

Health promotion strategies relate to individual lifestyle – personal choices made in a social context – that can have a powerful influence over one's health prospects. These strategies address issues such as physical activity and fitness, nutrition, tobacco, alcohol and other drugs, sexual behavior, family planning, and violent and abusive behavior. Educational and community-based programs can address lifestyle in a crosscutting fashion.

Health protection strategies relate to environmental or regulatory measures that confer protection on large population groups. These strategies address issues such as unintentional injuries, occupational safety and health, environmental health, food and drug safety, and oral health. Interventions to address these issues may include an element of health promotion, but the main approaches involve a community-wide rather than an individual focus.

Preventive services include counseling, screening, immunization, and other interventions for individuals in clinical settings. Priority areas for these strategies include maternal and infant health, heart disease and stroke, cancer, diabetes, sexually transmitted diseases (including HIV/AIDS), and other infectious diseases.

*Healthy People 2010: National Health Promotion and Disease Prevention Objectives*, released in 2000 by the Public Health Service of the U.S. Department of Health and Human Services, identified national health improvement goals and objectives to be reached by the year 2010. This publication defined two broad goals:

- to increase quality and years of healthy life; and
- to eliminate health disparities.

*Healthy People 2010* provides a framework around which public health objectives are developed. This chapter provides a synopsis of MDH activities in the three major focus areas – health promotion, health protection, and disease prevention – and references other public agencies and private organizations attempting to improve the health status of Mississippians.

Measurements for many objectives are obtained from the Behavioral Risk Factor Surveillance System (BRFSS) survey, which is a random sample telephone survey of the adult (age 18 and older) civilian non-institutionalized population. The survey is designed to estimate the prevalence of certain behavior patterns and risk factors associated with disease, injury, and death. The results provide a tool for evaluating health trends, assessing the risk of chronic disease, and measuring the effectiveness of policies, programs, and awareness campaigns.

## Health Promotion

### Physical Activity and Fitness

Research well documents the health benefits of regular physical activity — it can help prevent coronary heart disease, hypertension, non-insulin dependent diabetes mellitus, osteoporosis, and such mental health problems as mood, depression, anxiety, and lack of self-esteem. Regular physical activity may also reduce the incidence of stroke and help maintain the functional independence of the elderly. On average, physically active people outlive those who are inactive. However, the

Behavioral Risk Factor Surveillance System (BRFSS) reported that 81 percent of adult Mississippians are not physically active on a regular basis (at least five days per week, for at least 30 minutes per day).

The MDH Office of Preventive Health coordinates initiatives for physical activity and serves as a contact for physical activity to the Centers for Disease Control and Prevention (CDC). The Mississippi Legislature enacted a worksite health promotion bill authorizing state agencies to offer employee wellness programs under guidelines established by the MDH. Employees of the MDH central office and two district offices have access to on-site fitness facilities.

The MDH Cardiovascular Health Program attempts to address physical activity barriers across the state by supporting community efforts to develop structural changes to the environment that increase outlets for physical activity. In the school setting, programs are funded to conduct physical activity and nutrition programs for staff and students. Other physical activity programs are being implemented regionally by trained teachers to influence physical activity behaviors in students at K-6 levels.

The MDH Office of Preventive Health partners with the Mississippi Department of Education (MDE), which certifies teachers for health education, to implement the Coordinated School Health Program (CSHP). Mississippi high school graduates must possess at least one-half Carnegie Unit in Comprehensive Health Education. The MDE also approves the Comprehensive School Health Framework and the Mississippi Fitness Through Physical Education curriculums.

The MDH also collaborates with the Governor's Commission on Physical Fitness and Sports, which strives to increase the level of physical activity for all Mississippians. The Commission promotes quality physical education programs in Mississippi schools through its Excellence in Physical Education Certification Program. Worksite needs are addressed through the promotion of National Employee Health and Fitness, the Annual Mississippi Worksite Award Program, and others.

The Mississippi Alliance for School Health (MASH), a non-profit organization composed of more than 40 statewide partners, leads efforts to promote daily physical education in schools. The 2003 Youth Risk Behavior Survey reported that 69 percent of Mississippi high school students were not enrolled in physical education (PE) class; 77 percent did not attend a PE class daily; and 82 percent did not participate in moderate or vigorous physical activity in the week prior to the survey.

**Women, Infants, and Children (WIC)**

The Special Supplemental Food Program for Women, Infants and Children, frequently referred to as WIC, is totally funded by USDA and implemented through the MDH. WIC provides nutritious foods, nutrition counseling, and referrals to health and social services at no charge to participants. WIC serves low-income pregnant, postpartum and breast-feeding women, infants and children to the age of five, who are residents of the state and meet the income guidelines. WIC is not an entitlement program; that is, Congress does not set aside funds to allow every eligible individual to participate in the program. Instead, WIC is a Federal grant program for which Congress authorizes a specific amount of funding each year for program operations. The Food and Nutrition Service, which administers the program at the Federal level, provides these funds to WIC state agencies (state health departments or comparable agencies) to pay for WIC foods, nutrition counseling and education, and administrative costs.

More than 7.5 million people nationwide receive WIC benefits each month. In Mississippi the average number of WIC participants per month is greater than 100,000, with children as the largest group. Approximately 72-73 percent of all infants born in Mississippi are enrolled in WIC during their first year of life. The Mississippi WIC Program is recognized nationally for

implementing the first Peer Counseling Breast-feeding Program to increase the number of mothers who breast feed their infants. The USDA National Office has recently issued two new Peer Counseling Grants to provide extra funds to all states for incentive and is using Mississippi as a role model state. Breast feeding numbers are increasing among the WIC population due to the work by the WIC breast feeding staff who provide counseling, educational materials, enhanced food packages, breast pumps, and related items.

Participants receive WIC foods in Mississippi through a direct distribution system located in each county. The foods provided are high in one or more of the following nutrients: protein, calcium, iron, and vitamins A and C. These are the nutrients frequently lacking in the diets of the program's target population. Different food packages are provided for different categories of participants. WIC foods include iron-fortified infant formula and infant cereal, iron-fortified adult cereal, vitamin C-rich or vegetable juice, eggs, milk, cheese, peanut butter, dried beans/peas, tuna, and carrots. Special therapeutic infant formulas and medical foods are provided when WIC guidelines are met and prescribed by a physician for a specified medical condition.

## Tobacco Prevention

The MDH Division of Tobacco Policy and Prevention (DTPP) directs its efforts toward reducing tobacco use among Mississippi youth and adults. The division monitors surveillance of smoking prevalence and smokeless tobacco use and works on new tobacco prevention initiatives in schools, clinics, communities, and work sites. The program's objectives include supporting and/or expanding community programs that link tobacco control intervention with disease prevention activities; promoting existing prevention and treatment models that can address cessation needs; and identifying and eliminating tobacco use disparities among Mississippi population groups.

The DTPP supports educational campaigns conducted through the state's nine public health districts to increase awareness of the negative effects of environmental tobacco smoke and tobacco use. The division also works closely with non-profit organizations such as the American Lung Association of Mississippi, the American Cancer Society, the American Heart Association, and the Partnership for a Healthy Mississippi (PHM). These and other members make up Mississippi's State Tobacco Coalition. The coalition's goal is to make more Mississippians healthier by becoming tobacco-free and supporting clean indoor air legislation.

Of these non-profit groups, PHM, or Partnership, is the largest and is composed of more than 800 public and private organizations, including MDH. The PHM mission is to create a healthier environment in Mississippi by reducing tobacco use through advocacy, education, and service. The Partnership is dedicated to offering youth healthy lifestyle choices by designing programs and media messages to create an environment in Mississippi that does not accept tobacco use. The Partnership offers a comprehensive approach on tobacco issues through community outreach, public awareness, advocacy, cessation, and enforcement of youth access laws. DTPP routinely works with the PHM to achieve these goals.

The division administers the School Health Nurses for a Tobacco-Free Mississippi Program which provides grants to 51 school districts throughout the state. Each grant is for $50,000, for a total of $2.55 million. The funds are provided through the Partnership as a part of Mississippi's Tobacco Expandable Fund. These nurses provide educational instruction and curriculum-based tobacco prevention activities for students in grades K-12.

The division conducts the Mississippi Youth Tobacco Survey (YTS). The survey is administered to randomly selected middle and high schools across the state every other year to determine the prevalence of tobacco use among young people. The survey also includes questions concerning the tobacco-related knowledge and attitudes of youth and their parents, the role of the media and advertising in young people's use of tobacco, minor's access to tobacco, environmental

tobacco exposure, and the likelihood of cessation of tobacco use. Figures are currently being compiled for the latest survey, which was conducted during the 2003-2004 school year.

In 2000, the State Tobacco Coalition and the Mississippi State Board of Health Committee on Tobacco jointly developed a comprehensive *State Tobacco Prevention and Control Plan*.

## Alcohol and Other Drugs

The Department of Mental Health's Division of Alcohol and Drug Abuse coordinates a statewide system of publicly-funded services for the prevention and treatment of alcohol and drug abuse. Each of the state's 15 regional community mental health/mental retardation centers provides a variety of alcohol and drug services at the local level with funds from the Department of Mental Health. A substantial number of for-profit and not-for-profit alcohol and drug abuse programs also offer services throughout the state. Chapter IX provides further discussion of these services.

The crisis created by alcohol and drugs resulted in several active public awareness groups, such as Developing Resources for Education in America (DREAM), Students Against Driving Drunk (SADD), and Mothers Against Drunk Driving (MADD). MADD establishes the public's conviction that impaired driving is unacceptable and criminal by promoting corresponding public policies, programs, and personal accountability. MADD sponsors such programs as victim assistance, public awareness, criminal justice, and organized youth programs. Its student counterpart, SADD, extends this mission into the schools, with positive peer messages encouraging sobriety and providing referrals to available assistance programs.

## Family Planning

The Mississippi Statewide Family Planning Program promotes awareness of and ensures access to reproductive health benefits by encouraging individuals to make informed choices that provide opportunities for healthier lives. In addition to providing medical services, the MDH Family Planning program acts as a facilitator for access to family planning care and as a source of technical assistance for providers of family planning services in both the public and private sectors.

The Family Planning Program seeks to provide convenient access to high quality contraceptive, infertility, and other family planning services in an atmosphere that maintains each individual's privacy and dignity. The program targets teenagers at risk and women 20 to 44 years of age with incomes at or below 150 percent of the federal poverty level. The program serves approximately 75,000 people annually, including 23,000 teens.

Local health departments and subcontractors provided family planning services to 74,717 users in calendar year 2004, including 22,794 users aged 19 and younger. The number of teen mothers giving birth to their second child represented 22 percent of all teen births; the program's goal is to reduce this to 19 percent in 2005. All family planning clients received counseling on healthy lifestyle choices such as proper nutrition, exercise, and avoiding risky behavior.

## Violent and Abusive Behavior

The MDH funds nine Rape Crisis Centers and 14 Domestic Violence Shelters across the state. In addition, funds are provided to the Coalition Against Sexual Assault and the Coalition Against Domestic Violence. These statewide entities meet separately on a regular basis and serve as links for intervention programs with professional service providers and various funding sources. A number of social services programs throughout the state address medical needs, stress factors, and violent behaviors that manifest when victims of crime seek professional assistance. A Board of Directors, oriented to the issues related to trauma and violent behavior, provides governance to each Coalition. The program director provides oversight of the day-to-day operation of individual sites.

Statistics from the 14 domestic violence shelters provide evidence that up to 49 percent of those involved in domestic violence situations have been physically abused themselves. Physical, sexual, and emotional abuse present public health problems of epidemic proportions. Domestic violence does not recognize race, gender, or socioeconomic status. According to the American Medical Association, Strategies for the Treatment and Prevention of Sexual Assault, one in five females are sexually assaulted and/or abused before they reach age 21.

From July 1, 2003, to June 30, 2004, a total of 1,055 women and 1,156 children received services from a shelter due to domestic violence. A total of 62,286 calls were received in Mississippi from victims seeking information and/or referrals. During the same fiscal year, of the new or reopened cases, 936 women experienced both physical and psychological abuse. A total of 624 women were able to create new living arrangements as a result of shelter intervention.

During the same period, the nine Rape Crisis Centers reported sexual assault cases totaling 98 males and 1,270 females. The majority were females age 18-24 reporting sexual assault. For males, the age range most reporting sexual assault was 7-12.

As part of Rape Crisis Centers and Domestic Violence Shelters, law enforcement training is of vital importance. New law enforcement recruits receive training on how to effectively deal with victims and are educated regarding procedures to access resources. Last year, Rape Crisis Centers conducted 32 law enforcement training seminars to 550 participants. Domestic Violence Shelter staff conducted 1,570 educational programs to 70,598 participants.

Mississippi is especially proud of the Sexual Assault Nurse Examiner (SANE) training that is provided statewide to hospital personnel. The basis of SANE is the belief that sexual assault victims have an absolute right and responsibility to report rape. While a victim may choose not to report to law enforcement, the victim has a right to know what his or her options are if the choice is not to report. Those who do report have the right to sensitive and knowledgeable support without bias. Overall, the mission of SANE is to meet the needs of assault victims by providing immediate, compassionate, culturally sensitive, and comprehensive forensic evaluation by trained, professional nurse experts within the parameters of the State Nurse Practice Act, the SANE standards of International Association of Forensic Nurses, and the individual agency policies. Last year, the Coalition Against Sexual Assault conducted two 40-hour SANE courses for 54 participants.

The Mississippi Department of Human Services provides programs to address all forms of abuse, treatment, and education. The Family Preservation Program provides home-based services to strengthen a family in lieu of removing a child from the home environment. The Department of Mental Health and other non-profit programs are available to assist persons experiencing trauma in the aftermath of violence through regional community mental health centers.

**Educational and Community-Based Programs**

The MDH Office of Preventive Health directs community-based activities aimed at prevention and education. The coordinator of community health services provides a link between district and local health promotion initiatives and state and national resources. Activities include community needs assessment, prioritization of health problems, coalition building, interventions, referrals, and evaluation. Activities are conducted through coalitions, committees, and state voluntary agencies.

The Community Health program provides mini-grants to five community-based organizations to conduct activities related to cardiovascular disease and physical activity. The program collaborates with health educators in Mississippi's public health districts to conduct health

education and prevention activities at the community level and collaborates with other programs to conduct health and wellness activities in church/faith-based settings.

**Special Initiatives:**

***School Health Program:*** The school health program works to increase the proportion of schools implementing the eight components of a Coordinated School Health Program (CSHP). The school health coordinator acts as liaison to the Mississippi Department of Education (MDE) and the Mississippi Alliance for School Health (MASH). Activities include joint conferences with MDE and other agencies/organizations, surveillance of youth risk behaviors, consultations and technical assistance to statewide school nurses, and coalition building.

The program partners with MASH to conduct an annual Mississippi Institute on School Health, Wellness, and Safety conference. During FY 2003, seven school districts received mini-grants to advance action plans on Coordinated School Health Programs developed at the conference.

The program provides technical assistance to school nurses across the state and conducts a biannual Youth Risk Behavioral Surveillance Survey (YRBSS) to measure behaviors among youth related to the leading causes of mortality and morbidity and to assess how these risk behaviors change over time. The YRBSS measures behaviors that result in unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; dietary behaviors; and physical activity. The 2003 YRBSS is available on the MDH website.

## Health Protection

### Unintentional Injuries

Each year in the United States, more than 140,000 people die from injuries and approximately one-fourth of the population suffer non-fatal injuries that range from minor wounds to chronic disabilities. Injuries are expensive, costing more than $210 billion annually. In Mississippi, unintentional injury leads to more years of potential life lost than any other factor – constituting the single greatest cause of mortality for persons between the ages of one and 45.

Motor vehicle collisions, falls, drowning, and residential fires cause a large number of the state's fatalities. Motor vehicle crashes rank first as the leading cause of injury death for all individuals age one and older. Suffocation ranks first as the leading cause of death for children age one and under.

The MDH Office of Health Protection coordinates initiatives to reduce deaths and disability related to the leading causes of injury in the state. The Child Passenger Safety Program provides education on child passenger safety, including correct installation of child restraints. Through this program, 20 certified child passenger safety technicians provide service statewide. The Fire Prevention Program provides education and information on fire safety. This program provides smoke alarms to areas in the state with the highest fire death rates. Other programs include fall prevention for older adults and partnerships to reduce drowning fatalities. Partnerships have been formed with other state and voluntary agencies whose mission involves injury prevention.

In FY 2004, the Injury Prevention program distributed information on effective programs and interventions to all nine public health districts, conducted bicycle safety activities, distributed 10,998 child safety seats, 20,000 child passenger educational packets, and educational information statewide. The Mississippi Office of Highway Safety provided funds for some of these programs, in addition to

Preventive Block Grant funding. The Fire Prevention Program distributed 4,000 smoke alarms, along with fire safety educational materials. The safety belt usage rate was 63 percent. The unintentional injury death rate was 54.8 per 100,000 population.

## Environmental Health

The Department of Environmental Quality's Office of Pollution Control operates four major programs: (1) air quality control, (2) surface water quality control, (3) groundwater quality control, and (4) hazardous waste management. The air quality division implements guidelines to direct the state's sources of air contaminants toward compliance with numerous legislative and regulatory requirements. The surface water quality division deals with water quality of all intrastate, interstate, and coastal waters. The groundwater quality division administers numerous permit programs, both state and federally authorized, designed to regulate sources of potential contamination to the state's groundwater resources. The hazardous waste division regulates ongoing management of hazardous waste in the state.

The Mississippi Emergency Management Agency (MEMA) cooperates with the Environmental Protection Agency and the Federal Emergency Management Agency in the Chemical Emergency Preparedness Program. This program identifies the locations of acutely toxic chemicals utilization and/or storage to assist planning and response efforts concentrated in those areas.

The Mississippi Department of Health protects the public through environmental health programs in public water supply, boiler and pressure vessel safety, radiological health, and general environmental services. The Public Water Supply Program assures safe drinking water to the 2.46 million citizens of Mississippi who utilize public water supplies by strictly enforcing the requirements of the Safe Drinking Water Acts. The program operates through five major areas: 1) bacteriological, chemical, and radiological monitoring of drinking water quality; 2) review of engineering plans and specifications for all new or substantially modified public water supplies in Mississippi; 3) annual surveys of each community public water supply to eliminate operational and maintenance problems that may potentially affect drinking water quality; 4) enforcement to ensure that the bacteriological, chemical, and radiological water quality standards of federal and state Safe Drinking Water Acts are followed; and 5) licensure and training of water supply officials and training of consulting engineers and MDH field staff in the proper methods of designing, constructing, and operating public water systems.

The Boiler and Pressure Vessel Safety Program enforces state laws, rules, and regulations governing boilers and pressure vessels. MDH staff and reciprocal commissioned insurance company representatives inspected 14,266 boilers and pressure vessels covered by the inspection laws. Some of these objects receive biennial inspections, with the larger and more hazardous ones inspected annually.

The Radiological Health Program of the MDH identifies potential radiological health hazards and develops precautionary control measures. The program strives to: 1) identify the sources of radiation exposure; 2) understand the biological effects of radiation; 3) investigate and evaluate methods of detection; and 4) formulate and apply procedures for the control of exposure. In conformance with state law, the program maintains and enforces regulatory standards to ensure low exposure to biologically harmful radiation. The program evaluates each facility licensed to possess and use radioactive materials and each facility registered to operate X-ray devices to determine compliance with the regulations and other specific conditions of the license or registration conditions.

Through a comprehensive monitoring and surveillance program, the MDH Division of Radiological Health (DRH) determines levels of radioactivity present in the environment, the probable effect of radioactivity on pathways leading to man, and the possibility of undesirable biological effects. To officially record radiation levels in the environment, the staff collects and

analyzes approximately 2,000 samples annually. These samples include water, milk, soil, meat, air, and vegetation, as well as direct radiation measurements. The Legislature also designated the Radiological Health Program to review and comment on technical information regarding radioactive waste issues. Accordingly, the staff actively participated in the implementation of the Southeast Interstate Low-Level Radioactive Waste Management Compact. In addition, DRH maintains radiological emergency response capabilities in the event of an incident/accident at the Grand Gulf Nuclear Station or a transportation accident involving radioactive materials.

The DRH addresses indoor radon exposure as one aspect of natural radioactivity. While of great concern nationally, indoor radon exposure does not receive widespread public health concern in Mississippi. However, DRH expects to find indoor radon levels above the EPA-recommended action level in 2.5 percent of Mississippi's homes. DRH conducts an ongoing Radon-in-Schools (RIS) program and radon screening state and county governmental buildings.

## General Environmental Services

The potential for the spread of disease through food or milk products, water, or the improper disposal of human waste has long been recognized. Environmental sanitation is the backbone of public health; the first boards and departments of health were formed to prevent the spread of disease by controlling environmental factors. In today's fast-paced society, more meals are eaten away from home, placing even more emphasis on the importance of proper food handling techniques and the safe service of food. Greater amounts of milk products are processed and packaged in central locations for distribution in markets nationwide. Emerging pathogens have the potential to contaminate food and milk supplies. As the population shifts toward suburban and rural areas, proper disposal of wastewater from individual homes grows in importance. Potential contamination of ground and surface waters is an environmental and a public health problem. Insects and rodents affect the public's health either directly by bites, stings, or contamination, or indirectly by transmitting diseases. Other environmental hazards, such as childhood lead poisoning, need to be addressed by conducting environmental assessments. The MDH has broad statutory authority, but many times inadequate resources for addressing these problems. Priorities must be set to direct those resources toward primary prevention activities which include community environmental services.

The MDH operates general environmental services in four broad areas: food, milk, onsite wastewater, and institutional services. Insects and rodent vectors affect the public's health directly by bites, stings, or contamination, or indirectly by transmitting diseases. Such hazards as child lead poisoning are addressed by conducting environmental assessments for lead. During the home assessments, a lead specialist provides information to parents and caregivers about ways to reduce environmental lead hazards.

### Food Protection

The Food Protection Program develops policies, provides guidelines, and gives technical advice and training to guide county and district environmentalists in inspecting food and food processing establishments using the principals of HACCP and risk assessment. These environmentalists also provide assistance and training to the food industry in an attempt to ensure that facilities comply with state and federal laws, rules, and regulations. Food service facilities must receive an annual permit from the MDH to operate, with inspection frequency based on risk factors which contribute to food-borne illnesses. The MDH website provides access to all food establishment inspection results. The website also allows consumers to lodge complaints on any food facility and see follow-up action taken.

All permanent food service establishments must have a certified manager on staff. The Food Protection Division works in partnership with industry and academia to provide training and accomplish certification. The Division also works with facilities toward achieving active managerial

control of food borne illness risk factors. In addition, state rating personnel provide training and standardization to the districts in an effort to ensure uniformity and quality inspections. Central office staff provide program assessments and help the districts to improve the total quality of the food protection program from the state to the county level. The Mississippi Food Protection Program participates in the National Voluntary Retail Food Program Standard Assessment Programs.

## Milk and Bottled Water

The Milk/Bottled Water Program develops policies, based on the Pasteurized Milk Ordinance, to guide environmentalists in inspecting and ensuring compliance with state and federal laws, rules, and regulations regarding dairy farms, bulk milk haulers, transfer stations, receiving stations, pasteurization plants, frozen dessert plants, and bottled water plants. The program also conducts Milk Sanitation Compliance and Enforcement Ratings of milk supplies within the state. These efforts allow the dairy industry to participate in interstate and intrastate commerce. From design and construction of Grade A dairy farm facilities through product delivery to the retail consumer at the market, agency staff strictly regulate the safety of milk, milk products, and bottled water. Environmentalists inspect dairy plants, farms, and bottled water facilities before issuing a permit to sell milk and water, and take milk and water samples for laboratory analysis to ensure high sanitary quality. Uniformity in regulation results in reciprocity with other states and ensures availability and safety of milk and bottled water products. The program ensures that current and minimum public health requirements are applicable to new products and manufacturing processes within the industry.

In FY 2004, the number of milk plants or milk producer groups failing to receive a satisfactory rating on state or federal surveys remained at zero. The MDH continued certification and sampling surveillance programs as set forth in Milk Program Policy and Bottled Water Policy. In maintaining a drug-free milk supply, any tankers testing positive for antibiotics were required to dump the milk so that it did not reach consumers. The public health laboratory will continue testing tankers and producer samples screened from any tanker testing positive for aflatoxin.

## Onsite Wastewater

The Onsite Wastewater Program develops policies/regulations and gives technical assistance to county and district environmentalists in inspecting R.V. parks, on-site wastewater disposal systems, and individual water supplies. From soil and site evaluations to final system approvals, the wastewater program is time-consuming and technical. District and county environmentalists perform soil and site evaluations and recommend the wastewater system best adapted to the site. Program specialists provide training and technical assistance. Local environmentalists respond to requests for assistance from the public regarding nuisance complaints, unsanitary conditions, and related matters. Plans for engineer-designed systems are reviewed and approved by engineering staff.

The MDH is currently instituting a Global Information System data collection system and database program for recording and reporting the data collected.

## Institutional Services

Staff of the Institutional Services branch inspect the state penitentiary and its satellite facilities, jails, and state institutions, including food service operations. Staff also provide technical assistance to environmentalists inspecting foster homes, public buildings, and family day care homes. In addition, staff review plans of public buildings for compliance with the Handicap Code.

Within this branch, staff of the Childhood Lead Poisoning Prevention Program perform environmental assessments for lead in homes of children identified with elevated blood lead levels. These investigations include taking environmental samples for laboratory analysis for all children under the age of six with venous blood lead levels of 20 µg/dl or higher, and for all children under the age of six with two venous blood levels of 15-19 µg/dl taken at least three months apart.

Vector Control/Entomology

Within the Bureau of General Environmental Services, a public health entomologist directs the statewide vector control program, assisting all four programs through identification of insects and other arthropods, consultation on public health pest management, and prevention/control of insect-transmitted disease outbreaks. The entomologist conducts education efforts concerning mosquito control and proper pesticide use for municipal officials and mosquito control personnel. At least one mosquito integrated pest management workshop is held each year in the state. In addition, the entomologist conducts specialized mosquito identification and surveillance training for public health employees and selected Mississippi Cooperative Extension agents. The public health entomologist is conducting a six-year statewide survey of mosquito species to assess their medical importance and where they occur.

The Division of Health Services has the responsibility of protecting and promoting optimal oral health for every Mississippian. Responsibilities of the Division, under the guidance and leadership of the State Dental Director, include the prevention and control of dental diseases through assessment (surveillance), policy development, and assurance programs.

In 2000, the Division of Health Services conducted a statewide clinical survey of 5,227 third-grade children using a stratified cluster sample of 74 public elementary schools. The mean age of participants was 8.6 years, with an age range of seven to 13 years, and an almost equal distribution by gender (50:50). Forty-three percent (n=2,242) of the sample was identified as white, and 57 percent (n= 2,965) black, with 20 students of unrecorded race. Seventeen percent (n=886) had at least one dental sealant on a permanent first molar tooth. Over 70 percent (n=3,685) of children demonstrated experience with dental decay, determined by the presence of at least one active lesion or one dental restoration. About 15 percent (n=779) of children were in urgent need of dental care, defined by pain and suffering, clinical inflammation, or loss of function. In FY 2004-2005, a new clinical survey of oral health in third-grade children in public schools was initiated. A weighted data analysis will be performed using information collected from about 5,000 children at 48 public schools statewide. Results from this clinical survey will be disseminated using written and web-based reports.

In August 2004, the Division of Health Services made public “My Water’s Fluoride”, an Internet-based data system interface that allows public users to locate the fluoride content of their community water system. This tool can be used by dentists, pediatricians, and other health providers to determine whether supplemental fluoride should be given to infants and children who live in communities without fluoridated water. This tool can also be used to create reports regarding the fluoridation status of Mississippi’s counties and for the entire state. Information in My Water’s Fluoride is updated on a monthly basis and can be found at http://apps.nccd.cdc.gov/MWF/Index.asp or at http://www.healthyms.com.

Efforts are on-going to integrate oral health surveillance into existing health surveillance tools. In 2003, two oral health questions were approved for use in the Pregnancy Risk Assessment Monitoring System (PRAMS) and these were included in the 2004 survey. Since 1997, three oral health questions have been periodically included in the annual Behavioral Risk Factor Surveillance Survey (BRFSS). It is anticipated that these oral health questions will be used in the BRFSS every other year on an on-going basis. In 2005, two oral health-related questions were added to the MDH

Women, Infants, and Children (WIC) Certification Form. In March 2005, a poster presentation of secondary data analysis conducted by MCH Data Unit staff using oral health, diabetes, and cardiovascular disease data was presented at the CDC Chronic Disease Directors meeting.

To determine the state's capacity to provide accessible dental health care, a survey of all dental providers in Mississippi was conducted in FY 2003-2004 by the MDH Office of Primary Care in collaboration with the state dental director. Sixty of 82 counties were determined to qualify for the federal definition of a dental health professional shortage area (dHPSA) and letters to request dHPSA designation were sent to the HRSA Office of Workforce Analysis in December 2004.

FY 2006 Objectives for Oral Health Assessment:
1. Implement effective oral health surveillance methodologies to measure the prevalence of dental caries, oral cancer, and periodontal disease.
2. Disseminate surveillance results and inform the public and policy makers of oral disease occurrence and the outcomes of disease reduction efforts in Mississippi.

In October 2002, the Governor of Mississippi convened a Statewide Oral Health Task Force and appointed the State Health Officer as chair. The Oral Health Task Force convened in January 2003 to develop a comprehensive oral health action plan for Mississippi that is anticipated for release in 2005. The State Oral Health Task Force members will continue to work together to assist the implementation of the state oral health plan. In November 2003, the MDH hosted an Early Head Start/Head Start Oral Health Forum in Jackson to improve oral health guidance and access to care for children in Head Start. One outcome of this meeting was the formation of a Head Start Oral Health Advisory Committee to develop a comprehensive oral health policy manual for Head Start programs and providers. The state dental director also works with the MS Head Start Association and the State Head Start Collaborative Office to plan and implement oral health programs for Head Start grantees.

The state dental director is working with the Mississippi Partnership for Comprehensive Cancer Control to develop a state cancer prevention, early detection, and treatment plan that includes action objectives to reduce morbidity and mortality of cancer therapies associated with oral disease. The dental director also works with the Mississippi Chronic Illness Coalition (MCIC), which hosts an annual Capitol Day program that provides health screens and education for MS legislators and their staff. The MCIC provides an opportunity for the dental director to network with other state organizations and promote the benefits of good oral health for persons with chronic disease, including diabetes and cardiovascular disease. In February 2005, the dental director obtained a proclamation from Governor Haley Barbour declaring February as Children's Dental Health Month, hosted a program at the University of Mississippi School of Dentistry entitled "Successes in Access to Dental Care in MS", co-sponsored Give Kids A Smile Day at the School of Dentistry which provided preventive dental care to over 900 children, and kicked-off its "Leading Children to Good Oral Health One by One" campaign to encourage a child's first dental visit by one year of age.

FY 2006 Objectives for Oral Health Policy Development:
1. Develop and assure effective oral health policy development to eliminate oral health disparities and improve oral health outcomes in Mississippi.
2. Develop working partnerships to promote and implement the state oral health action plan.

The Public Water Fluoridation Program encourages the adjustment of fluoride content that occurs naturally in a community's water to the best level for preventing tooth decay. Optimal levels of fluoride in drinking water can prevent 20-40 percent of tooth decay. Waterworks operators are required to continuously monitor the fluoride content of drinking water in communities that fluoridate to maintain certification. The program strives to reach the federal Healthy People 2010 health goal to increase the U.S. population served by optimally fluoridated water by 75 percent. In 2002, Mississippi had 1,194 community public water systems serving about 97 percent of the state's total population. Of these public systems, only 112 systems provided water fluoridation programs at

recommended optimal fluoride levels, to serve about 1,159,859 people or approximately 39 percent of the state's population.

In 2003, the Public Water Fluoridation Program received a grant from the Bower Foundation that provides funds to pay most of the cost of fluoride feeder and test equipment, housing, and installation. Funding from this grant was used to hire a state fluoridation administrator to assist communities to develop water fluoridation programs and provide training for waterworks operators about fluoride systems, testing and monitoring. A contact dentist program was initiated to facilitate local water system compliance with water fluoridation guidelines. As of December 2004, 132 water systems had water fluoridation programs to serve about 1,284,119 people. Including those served by water systems that have natural fluoride levels at or near the optimal range for oral health, about 1,462,940 Mississippians or approximately 48 percent of the population receive the benefits of fluoridated water. The fluoridation administrator works with the MS Rural Water Association and the MSU Extension Service to conduct water fluoridation program training for water operators and persons who serve on water association boards. The health department's contract with the Bower Foundation was renewed through June 2006. Additionally, monies from the CDC Preventive Health and Health Services Block Grant are used to fund new water fluoridation programs.

The Bureau of Child and Adolescent Health provides funding for a preventive dental sealant program in Public Health District III through the MCH Block Grant to improve the District's low dental sealant utilization rate (10 percent). This school-based program is administered through the University of Mississippi School of Nursing's Mercy Delta Express Project. The program uses an Adopt-a-School model to encourage community dental providers to partner with a local elementary school and deliver the dental sealants for eligible permanent first molar teeth in second-grade children. Dental sealants are placed on-site at participating schools using the MDEP mobile health clinic. From October 1, 2001 to September 30, 2003, over 3,760 dental sealants were placed in 728 second grade school children in Public Health District III. In 2004, the program expanded into Sharkey / Issaquena Counties, which have no local dental providers. As of November 2004, 6,950 dental sealants were placed in 1,782 second grade children in Public Health District III. Additionally, the School of Nursing is working to obtain Medicaid certification for the mobile clinic, which will enable the School of Nursing to bill for certain primary care services, such as EPSDT screening.

The Children's Oral Health Protection Program (COHPP) is a voluntary elementary school program that was developed for areas without fluoridated water. This program provides alternative methods of fluoride supplementation, such as a weekly school fluoride mouth rinse, a daily school chewable fluoride tablet, and a daily toothbrushing activity using fluoride toothpaste, all proven methods to reduce dental decay among children. In 2003, 49 schools participated in the weekly fluoride mouthrinse program, serving 20,773 students. In the 2004-2005 school year, over 75 schools participated in the weekly fluoride mouthrinse program, serving over 33,000 children. The daily chewable fluoride tablet and toothbrushing programs are anticipated to begin during the 2005-2006 school year. COHPP activities are initiated by five part-time certified, licensed dental hygienists who serve as regional oral health consultants in each Public Health District and work with closely with public schools and Head Start programs to implement the activities.

The Dental Corrections Program purchases dental services for children under age 18 with reported financial need and an inability to access essential oral health services through Private Insurance, Medicaid, or CHIP. Application for the Dental Corrections Program must be made at a County Health Department. In FY 2003, the program expended over $11,000 for dental services, and served 13 children. Applications for this program decreased during FY2004, and this is believed to be due to an increase in Children Health Insurance Program (CHIP) enrollment and the availability of dental services through the SCHIP program. The state also has a birth defect registry that includes cleft lip/cleft palate reporting.

Obtaining access to routine dental care is a significant problem for low-income

Mississippians. The Division of Health Services provides the public with a listing of dental providers who participate in the Medicaid dental program and those who provide low-cost payment options such as sliding-fees based on ability to pay for services. Future activities proposed to improve oral health care access among low income families include the implementation of targeted case-management to identify at-risk children and make referrals for preventive dental care.

FY 2006 Objectives for Oral Health Assurance:
1. Continue new program development and expansion of existing programs to meet federal Healthy People 2010 oral health objectives for Mississippi.
    a. Reduce the prevalence of dental caries
    b. Reduce the prevalence of oral cancer
    c. Reduce the prevalence of periodontal disease
2. Seek and identify adequate resources to assure effective oral health protection and promotion activities in Mississippi.

## Preventive Services

### Maternal and Infant Health

The MDH provides maternity services statewide to more than 8,401 women through the county health departments, targeting pregnant women with incomes at or below 185 percent of the federal poverty level. The program addresses its goal of reducing infant mortality by providing accessible and continuous quality service based on risk status with referral to appropriate physicians and hospitals as indicated. The Supplemental Food Program for Women, Infants, and Children (WIC) provides essential nutritional counseling and supplemental foods to pregnant and breast-feeding women, as well as infants and children. Since 1990 it has also extended its services to homeless women, infants, and children residing in shelters.

A part-time, board-certified obstetrician provides consultation statewide for the Office of Women's Health. The public health team evaluates maternity patients at each visit, using protocols which reflect national maternity standards of care. The team places special emphasis on identifying high risk problems and ensuring appropriate care to reduce or prevent these problems. This includes assisting with arrangements for delivery by an obstetrician at a hospital that provides the necessary specialized care for the mother and the baby.

The MDH maintains a toll-free telephone hotline which answers inquiries relating to Maternal Child Health (MCH) and Children with Special Health Care Needs (CSHCN). The toll-free line provides assistance to clients seeking MCH/CSHCN services, family planning services, Medicaid, and WIC, as well as other services. This line provides a valuable tool for encouraging early entry into prenatal care and to further link the private and public sectors.

Other groups advocating improved maternal and child health include the Mississippi Hospital Association, the Mississippi Perinatal Association, the Southern Governors' Association, the State Medical Association, the University Medical Center, the Infant Mortality Task Force, and the Mississippi Primary Health Care Association.

The Division of Genetic Services provides newborn screening for 40 genetic disorders to identify these problems early and initiate immediate intervention to prevent irreversible physical or mental retardation or death. A comprehensive system of follow-up is in place to facilitate access to needed services for children and their families.

In Mississippi, birth defects are the leading cause of infant mortality and one of the leading causes of potential life loss. The Division of Genetic Services collects data on all birth defects

reported for individuals born in Mississippi on or after January 1, 2000. Through this birth defects surveillance system, infants and children with birth defects are identified and referred to appropriate programs. Sickle cell and genetic satellite clinics are strategically located throughout the state to provide counseling and clinical services.

The Mississippi Affiliate of the Muscular Dystrophy Association provides genetic screening and counseling free of charge to the people they support. The Association's Jackson, Tupelo, and Gulfport clinics provide these services.

**Special Initiatives**:

***Perinatal High Risk Management/Infant Services System (PHRM/ISS)****:* The perinatal high-risk management/infant services system provides a multi-disciplinary team approach to high risk pregnant women and infants through targeted case management. PHRM/ISS helps eligible women access needed medical care and enhanced services such as nursing, nutrition, and social work. A team of professionals provides risk screening assessments, counseling, health education, home visiting, and monthly case management. The program addresses the individual patient's risk factors to reduce the incidence of low birthweight and infant and maternal mortality and morbidity. Increased access to prenatal care, has reduced infant mortality in the state. Chapter X provides additional information on this program.

***Infant Mortality Task Force****:* The Mississippi Infant Mortality Task Force fosters the reduction of infant mortality and morbidity in Mississippi and improves the health status of mothers and infants. The Task Force is composed of 11 voting members and one ex-officio member from each of the following: Department of Human Services, MDH, Department of Education, Division of Medicaid, University of Mississippi Medical Center, Mississippi Primary Health Care Association, the Chairman of both the Senate and House Public Health and Welfare Committees, and one additional member of the Senate and House Committees as designated by the Chairman.

***Pregnancy Risk Assessment Monitoring System (PRAMS)****: PRAMS* is a part of the Centers for Disease Control and Prevention's initiative to reduce infant mortality and low birthweight. This risk factor surveillance system was designed to generate state-specific risk factor data and to allow comparison of these data among states. PRAMS offers ongoing, population-based information on a broad spectrum of maternal behaviors and experiences, and it captures data on the use of important Maternal/Child Health related resources. Data from the system can be used to develop, monitor, and assess programs designed to identify high-risk pregnancies and to reduce adverse pregnancy outcomes. The components of the PRAMS surveillance systems are summarized under four headings: Sampling and Stratification, Data Collection, Questionnaire, and Data Management and Weighting.

***Perinatal Regionalization****:* Perinatal Regionalization coordinates perinatal care for a defined region, allowing all pregnant women and/or their newborn babies to benefit from the availability of risk-appropriate medical and hospital care. The system encompasses aspects of education, evaluation, referral, and transportation.

***Sudden Infant Death Syndrome Program:*** Sudden Infant Death Syndrome (SIDS) is the sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and a review of the clinical history. SIDS is one of the major causes of death in infants from one month to one year of age. County health department staff initiate contact with families that have experienced a death due to SIDS (telephone, mail, or home visit) to offer support, counseling, and referral to appropriate services. SIDS literature is also available. Parents, caretakers, and pregnant women receive counseling regarding activities to reduce SIDS, such as putting the baby to sleep on its back and avoiding cigarette smoke.

## Heart Disease and Stroke

The American Heart Association-Mississippi Affiliate, a volunteer agency with a local volunteer heart unit in many Mississippi counties, conducts hypertension screening, one of the leading risk factors for heart disease and stroke. The Affiliate provides screening to the public through health fairs and other educational programs, such as the AHA stroke screening conducted by trained nursing students. Additionally, screenings are conducted through the Heart Disease and Stroke Network, which includes a statewide network of trained volunteers to address heart disease and stroke.

The Mississippi Department of Health, through local county health departments, offers hypertension screening, diagnosis, treatment, and follow-up services jointly with the patient's private physician. The health departments also provide limited nutrition education, exercise counseling, and medication to those without other means of obtaining such services from other providers.

The Office of Preventive Health includes the state's Cardiovascular Health Program, which promotes the urgency of stroke and heart disease through health promotion activities related to high blood pressure and cholesterol control, knowledge of signs and symptoms of stroke, and improving health care to eliminate disparities.

The state's Cardiovascular Health Program works closely with the Mississippi Chronic Illness Coalition (MCIC) to build relationships across the state to address heart disease and stroke. Several activities are implemented via this partnership, including a statewide social marketing/speakers bureau program to promote awareness of key health indicators. In addition, community health centers are provided funding and resources to conduct heart disease and stroke prevention activities statewide. The Mississippi State Plan for Heart Disease and Stroke Prevention and Control was published in 2004 and disseminated to key stakeholders who assist in cardiovascular disease prevention/control. The plan focuses on all levels of health promotion from individual change strategies to policy change strategies to have a greater impact on the state's CVD reduction. The plan will be implemented in coordination with the Mississippi Task Force on Heart Disease and Stroke Prevention.

## Breast and Cervical Cancer

Approximately 80,000 Mississippians have a history of cancer. The American Cancer Society estimates 2,358 new cases of breast cancer and 140 new cases of cervical cancer in Mississippi in 2005, and approximately 450 deaths from breast cancer during the year. Breast cancer is the second leading cause of cancer deaths among women age 45 to 65. The survival rate for non-invasive breast cancer approaches 100 percent; the survival rate for cervical cancer is 80-90 percent.

The Cancer Program works closely with the Maternal/Child Health and Family Planning programs in screening for cervical cancer in women of reproductive age. Reimbursement for diagnostic services (colposcopy directed biopsy) is provided for breast and cervical screening and mammograms. Currently, 44 contracts have been signed for breast and cervical cancer screening, and 41contracts have been signed for mammography services. There is a limited amount of medication available for the treatment of breast cancer through the MDH Pharmacy; public education programs are presented as requested from outside sources. Treatment funds are available via Mississippi Division of Medicaid for women detected with breast or cervical cancer enrolled in the Breast and Cervical Cancer Program.

MDH's breast and cervical cancer program focuses on three major areas: 1) screening for breast and cervical cancer; 2) referral, follow-up, and reimbursement for outpatient diagnostic and

treatment services for patients with abnormal conditions; and 3) public awareness and professional education.

Educational materials are available at the county levels and the central office of MDH relating to breast and cervical cancer early detection. During 2004, staff provided public awareness materials and conducted presentations at health fairs and professional meetings. To date, 15,212 women have been screened for breast and cervical cancer; 214 breast and six cervical cancers have been detected.

## Diabetes

Type 2 diabetes is a serious disease in Mississippi. The 2003 Behavioral Risk Factor Surveillance System (BRFSS) indicated11 percent of adult Mississippians are estimated to have been diagnosed as diabetics, compared to seven percent for the United States. The BRFSS report also revealed that the 2003 diabetes prevalence rate exceeded the 2002 prevalence rate by 28 percent. Authorities estimate that adult onset diabetes is under-reported by 40 percent.

Uncontrolled diabetes may lead to serious complications. Every year 2,200 Mississippians suffer significant diabetes-related complications that include lower extremity amputations (1,350 new cases annually), end-stage renal disease (500 new cases annually), and diabetes-related blindness (350 cases annually). About 58 percent of individuals with type 2 diabetes also suffer from cardiovascular disease. Further, idiopathic diabetes contributes to 2,300 deaths.

To address these problems, the Diabetes Prevention and Control Program focuses on increasing diabetic foot exams, eye exams, flu and pneumonia vaccinations, and hemoglobin A-1c testing. Additional actions focus on eliminating health disparities, developing wellness programs, refining tracking measures, and assessing the statewide diabetes public health system.

During FY 2005, the Diabetes Prevention and Control Program provided, or caused to be provided, continuing professional diabetes management education to more than 1,000 health care providers and training for approximately 200 health care professionals in basic foot care. Program personnel indirectly participated in nearly 2,000 diabetic foot exams. The Program participated with the American Diabetes Association in organizing and implementing “Project Power” in ten churches in the greater Jackson area; continued the “Small Steps, Big Reward” media campaign; formed partnership with other health care providers to initiate an assessment of the Statewide Diabetes Public Health System in six regions of the state; and partnered with the Immunization Division to launch the READII program to increase the influenza and pneumonia vaccination levels among the elderly. The Program also funded 17 faith-based and five community-based organizations to implement local diabetes awareness and prevention activities.

## HIV Disease and Other Sexually Transmitted Diseases

Mississippi, along with the rest of the world, faces a growing problem with HIV disease (HIV infection which has not yet developed into AIDS) and AIDS. Although Mississippi's number of cases of HIV disease is relatively small, the state must continue to prepare to manage the needs of the increasing number of people living with HIV disease. But, in attending to this problem, the state cannot afford to divert resources from the control of other sexually transmitted diseases.

Mississippi reported 452 new cases of HIV disease in 2003 and 607 cases in 2004. Health officials estimate that as many as 10,000 Mississippians may be affected with HIV, the virus that causes AIDS. The severity of the epidemic in the African-American community surpasses levels initially noted in white men who have sex with other men (MSM). African-Americans now account for the majority of new HIV infections and AIDS cases. The behavioral connection between HIV

infection and STDs indicates that the presence of STDs predisposes people to greater probability of HIV transmission and infection. In other words, Mississippi faces the likelihood of continuing to acquire HIV infections. Mississippi reported a total of 213 cases of early syphilis in 2003 and 186 in 2004. As the number of new syphilis cases decreased in 2004, a similar decrease occurred in the number of newly reported cases of HIV disease as well.

Traditional epidemiological approaches to the control of sexually transmitted diseases include detection, partner counseling and referral services, and treatment. For HIV/AIDS, targeted testing directed toward persons with high risk characteristics is the most cost-effective method of detection. High risk groups include: (a) men who have sex with men, (b) intravenous drug users, (c) hemophiliacs and others who received blood or blood products from 1978 to June 1985, (d) infants born to mothers who are at risk for HIV infection, and (e) heterosexuals who engage in high risk behavior.

The MDH's STD/HIV Bureau serves as the focal point for the majority of federal assistance provided to Mississippi for the prevention and control of STDs, HIV infection, and AIDS. During 2004, the program received grants from, or participated in cooperative agreements with, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, and the Department of Housing and Urban Development to manage six projects worth over $20 million. The Bureau's mission is to reduce the number of newly diagnosed STDs, HIV infection, and AIDS in Mississippi. The Bureau's major activities include surveillance; counseling and testing; partner counseling and referral services; health education/risk reduction; public information; HIV/AIDS drug, medical, and housing services reimbursement; minority initiatives; and STD treatment.

The Prevention and Education Branch plans, implement, and evaluates prevention inventions designed to reach high priority target populations. Branch staff conducts training sessions throughout the state as well as provide prevention education at forums, workshops, seminars, health conferences, community presentations, and mobile clinic site assignments. Through these venues, community members develop the knowledge and non-judgmental presentation skills and perspective necessary to support the STD/HIV Speakers Bureau. During 2004, an estimated 17,500 people benefited from these services.

The Prevention and Education Branch also coordinates the distribution and management of federal funding to AIDS Service Organizations (ASOs) and other service contracts, including the American Red Cross and Mississippi AIDS Service Expansion (MASE). These agencies serve as partners with MDH to provide culturally sensitive and age and linguistically appropriate preventative messages to a wide variety of Mississippians, particularly those infected and affected by HIV/AIDS. These organizations received contracts based on technical merit of their applications and the degree to which each application responded to the needs identified by the Mississippi HIV Prevention Community Planning Group.

The CARE and Services Branch manages funds that Mississippi receives under the provision of Title II of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act. These funds are available to provide life sustaining therapies for people living with HIV disease. The AIDS Drug Program managed by this branch served approximately 1,359 people in 2004, while the Home-Based Program served more than 85. The Housing Opportunities for People living with AIDS Program, also managed by this Branch, enabled people living with HIV disease and their families to remain together.

Although there is no known cure for HIV, there are drugs which slow the course of the disease and prolong the lives of patients. Protease inhibitors, in combination with other anti-retrovirals, can drastically reduce the amount of HIV present in the body. This therapy is very costly ($12,000 to $16,000 per patient per year) and is therefore unavailable to most infected Mississippians without financial assistance. Treatment of the opportunistic diseases which accompany AIDS often

requires hospitalization and expensive medications. Estimates of the costs of treating current and future AIDS patients are astronomical. Currently, the average lifetime medical cost for an AIDS patient is between $129,000 and $200,000; the annual cost of treating a person with HIV infection (not yet AIDS) is approximately $32,000. Costs may vary considerably from patient to patient.

The source of payment for the high costs of HIV testing and treatment is but one of many issues being brought to the forefront of public health policy discussions. Other states have proposed or passed legislation addressing such issues as involuntary testing of defined groups of persons and discrimination by insurance companies and employers of those infected with HIV.

MDH staff, current and potential HIV/AIDS providers, and interested citizens participated in an HIV Services Planning Project. The group developed a statewide plan for delivering integrated health and social services to individuals with HIV/AIDS and all of its clinical manifestations. The MDH published the results of this project, which included recommendations in the following areas:

- HIV counseling and testing;
- outpatient medical care;
- dental policy development and accessible dental care;
- long-term planning for hospitals regarding inpatient care;
- home health services;
- medical equipment, supplies, and medication;
- hospice care; and
- support services, such as case management and care coordination.

The state will continue its efforts to control the spread of HIV disease through public education, treatment, and contact counseling.

The Division of Medicaid was awarded a six-year grant by the Health Care Financing Administration under the Ticket to Work and Work Incentives Improvement Act of 1999 to provide Medicaid services to individuals with a diagnosis of HIV or AIDS who do not meet the disability criteria of the Social Security Administration. The purpose of the demonstration grant is to determine whether providing coverage to individuals with HIV/AIDS earlier in the course of their disease will improve their ability to stay employed and remain self-sufficient, maintain their physical and mental health, and delay onset of disability.

**Communicable Diseases**

The MDH Office of Communicable Diseases provides a statewide surveillance program to monitor the occurrence and trends of infectious diseases and immunizations. The office provides drugs for direct disease intervention in specific illnesses and offers educational updates and training to the medical and lay communities. Staff provides consultation to health care providers and the general public on communicable disease control and prevention, vaccine preventable disease, international travel regulations, TB, STD, and AIDS.

The MDH Immunization Program provides and supports services designed to ultimately eliminate morbidity and mortality due to childhood, adolescent, and adult vaccine-preventable diseases, influenza, and pneumonia. These services include vaccine administration, monitoring of immunization levels, disease surveillance and outbreak control, information and education, and enforces immunization laws by monitoring compliance in schools and day care centers.

Data for 2004 indicated that the immunization level for 24 month old children was 84.7 percent based on the 4-3-1 schedule. For 4-3-1-3 (HIB) the level was 83.9 percent. All MDH clinics determined coverage levels through use of the Clinic Assessment Software Application (CASA). Additionally, an integral part of every non-MDH Vaccines for Children provider clinic evaluation

includes a CASA assessment annually. National Infant Immunization Awareness Week and National Adult Immunization Awareness Week are yearly events that the Immunization Division promotes and supports. The Immunization Program promotes adolescent immunization through the school-based Hepatitis-B program. The Mississippi Statewide Immunization Coalition held three meetings during the year, with approximately 100 people in attendance at each meeting. This coalition is currently functioning as a 501-C-3 organization.

All immunization providers in the state are not reporting immunization histories to the Immunization Registry. The bar code technology to fully implement the registry to all providers in the state has been developed and private providers are currently reporting through this method. Fax, phone, and mail reporting are currently available. The Bureau of Immunization provides technical assistance to MDH staff on all registry issues related to the statewide Immunization Registry. The Immunization Program has developed web site access to the statewide Immunization Registry for providers to view immunization histories. Currently, 165 providers are accessing the web site at the clinic level. The Immunization Division has implemented access from the website and printing capability of the Certification of Immunization form.

## Tuberculosis

The American Lung Association of Mississippi (ALAM), a non-profit voluntary health organization dedicated to lung disease prevention and control, provides several programs geared toward public awareness. These programs include public information, patient services, emergency financial assistance, public and professional education, and medical research. ALAM concerns itself with any lung or breathing problem — more than 30 serious lung diseases, in addition to tuberculosis, present a threat to "life and breath". ALAM's strong volunteer crusade battles tuberculosis, emphysema, chronic bronchitis, lung cancer, asthma, pneumonia, dust and lung diseases, Sudden Infant Death Syndrome, and any of the multitude of problems that strike the lungs or respiratory system.

The MDH Bureau of Tuberculosis and Refugee Health provides early and rapid detection; appropriate treatment and follow-up; and therapy for latent tuberculosis infection (LTBI) to persons at risk of developing the disease. Because of the significant public health implications of tuberculosis, regularly scheduled educational up-dates and certification courses are provided to persons in health related occupations.

Several areas of concern regarding TB trends in 2004 include: eleven cases were drug resistant; ten cases were among children; nine were foreign born; and five cases were HIV-positive. The continuing transmission of TB to children and the growing number of foreign born individuals from high prevalence countries relocating to Mississippi are the most significant threats confronting the prevention and control of TB. The treatment and follow-up of parasitic diseases among Sudanese arrivals lead to testing and TB follow-up of all refugee children.

With 119 cases reported, tuberculosis morbidity in Mississippi declined seven percent in 2004. Mississippi's aggressive efforts to eliminate TB have resulted in an overall reduction in morbidity of 69 percent since 1989. TB in black Mississippians has declined from 217 cases in 1989 to 76 cases in 2004, with a reduction in the case rate among blacks from 23.6 to 7.3 cases per 100,000 population.

Of the 241 latent TB infection preventive patients less than 15 years of age for whom directly observed therapy was recommended in 2004, 99 percent were placed on this therapy. Ninety-nine percent of the HIV-positive preventive patients were placed on directly observed therapy. Ninety-two percent of the newly infected Mississippi Department of Corrections inmates placed on latent TB infection therapy are receiving directly observed therapy.

## Clinical Preventive Services

The Division of Medicaid, through the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, offers health care to eligible children and youth under the age of 21 years. This program screens children for physical, mental, and developmental defects and provides for necessary health care to correct or ameliorate those defects. Treatment for visual, hearing, and dental problems is also provided. Thus, EPSDT introduces eligible children into the health care system and makes services available to them before health problems become chronic and expensive to treat. EPSDT also provides teenagers with factual reliable information to help them make better and more healthful choices.

The MDH provides childhood immunizations, well-child assessments, and tracking of infants and other high risk children, targeting services to children whose family incomes are at or below 185 percent of the federal poverty level. The Department serves more than 115,000 children annually. Adjunct services such as the Genetic Screening Program, the Supplemental Food Program for Women, Infants and Children (WIC), the Children's Medical Program, the Childhood Lead Poisoning Prevention Program, Abstinence, and the Birth Defects Registry are important components of the comprehensive Child Health Program. The multidisciplinary team includes medical, nursing, nutrition, and social services. The program provides early identification of potentially crippling conditions and linkages with providers necessary for effective treatment and management.

**Special Initiatives**:

**Out-Reach Initiative Project**: The failure of parents to take advantage of the EPSDT program is a major problem in the provision of preventive health services. Approximately 55 percent of children eligible for EPSDT fail to keep appointments. Consequently, early childhood services, i.e., immunizations, are deferred until the child is ready to enter Head Start or kindergarten. Providers of EPSDT services are charged with the responsibility of outreach to those children who are not in the EPSDT program in an effort to bring them into the mainstream of health care.

**First Steps Early Intervention System**: Mississippi has implemented an interagency early intervention system, called *First Steps*, for infants and toddlers with developmental disabilities. Early intervention of children experiencing developmental delay reduces the chance of negative economic, health status, educational, and social effects throughout adulthood. Chapter XII presents additional information on this program.